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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,417	11/28/2003	Masashi Takahashi	246063US2S	7391

  

22850	7590	12/03/2007
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.		
1940 DUKE STREET		
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EXAMINER	
CORBETT, JOHN M	

  

ART UNIT	PAPER NUMBER
2882	

  

NOTIFICATION DATE	DELIVERY MODE
12/03/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/722,417

Applicant(s)

TAKAHASHI ET AL.

Examiner

John M. Corbett

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2007.
- 2a) ☐ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 28-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-31 and 38-40 is/are allowed.
- 6) ☒ Claim(s) 33 is/are rejected.
- 7) ☒ Claim(s) 32 and 34-37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12 September 2007 has been entered.

2. This application is in condition for allowance except for the following formal matters:

***Claim Objections***

3. Claims 32 and 34-37 are objected to because of the following informalities, which appear to be minor draft errors including grammatical and/or lack of antecedent basis problems.

In the following format (location of objection; suggestion for correction), the following correction(s) may obviate the objection(s):

In claim 32, line 3; the limitation "said photographing data" lacks proper antecedent basis; perhaps "one of said raw data and said projection data," was meant.

Claim 34, line 13; the term "transmits" should read "configured to transmit" for consistency purposes.

Claims 35-37 are objected to by virtue of their dependency.

Art Unit: 2882

4. Claim 33 objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 33 removes the limitations to a first and a second X-ray computed apparatus required by the parent claim 28. Therefore, claim 33 is an improper dependent claim.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 25 USPQ 74, 453 O.G. 213, (Comm'r Pat. 1935).

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

***Allowable Subject Matter***

5. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claim 28, the prior fails to teach or reasonably suggest a system including a determining unit configured to determine, based on the appended information, whether image reconstruction by using one of the raw data and the projection data is possible in the second X-ray computed tomography apparatus, when taken in combination with all of the other limitations of the claim. Claims 29-32 indicate allowable subject matter by virtue of their dependency.

Art Unit: 2882

With respect to claim 34, the prior fails to teach or reasonably suggest a system including a determining unit configured to determine, based on the appended information, whether image reconstruction based on one of the raw data and the projection data is possible in the second X-ray computed tomography apparatus, when taken in combination with all of the other limitations of the claim. Claims 35-37 indicate allowable subject matter by virtue of their dependency.

With respect to claim 38, the prior fails to teach or reasonably suggest a apparatus including a determining unit configured to determine whether one of the raw data and the projection data transmitted from the data managing system is reconstructible in the reconstruction unit, when taken in combination with all of the other limitations of the claim. Claims 39-40 indicate allowable subject matter by virtue of their dependency.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Turbell ("Cone-Beam Reconstruction Using Filtered Backprojection", February 2001, Linkoping Studies in Science and Technology dissertation No. 672) discloses different algorithms are suitable for different detector setups depending upon the number of rows used to acquire the data in a multi-slice detector system (Page 139).

Flohr et al. ("New technical developments in multislice CT, Part 1: Approaching isotropic resolution with sub-millimeter 16-slice scanning", July 2002, Fortschr Rontgenstr, Volume 174, number 7, pages 839-845) discloses for CT systems with 8 or more slices, the cone beam geometry causes severe artifacts. Flohr et al. further discloses that the Adaptive Multiple Plane Reconstruction (AMPR) algorithm effectively suppresses the cone beam artifacts and can be used when 8 or more slices are collected in a multi-slice detector system (Abstract).

Wang et al. (6,522,714) discloses a prior art algorithm for performing a reconstruction when the number of rows in the detector is 4 and an improved algorithm when the number of rows in the detector is eight (Col. 4, lines 25-33).

Watanabe et al. (5,751,837) discloses wherein the appended information includes the number of detector elements (Col. 5, lines 22-39).

Iatrou et al. (20040019275) discloses determining whether sufficient projection data is provided to perform a half-scan reconstruction (Paragraph 60 and Figure 9, item 112).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John M. Corbett whose telephone number is (571) 272-8284. The examiner can normally be reached on M-F 8 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

26 November 2007

JMC



EDWARD J. GLICK  
SUPERVISORY PATENT EXAMINER